

## TWO NEW SPECIES OF *NEOHYPDONUS* (COLEOPTERA: ELATERIDAE) FROM NORTH AMERICA WITH A KEY TO NEARCTIC SPECIES<sup>1</sup>

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**ABSTRACT:** A key to the North American species of *Neohypdonus* is provided. *Negastrius musculus* is newly transferred to the genus *Neohypdonus*. Two new species from western North America are described.

The click-beetle subfamily Negastrinae in North America is composed of over 30 species that are generally encountered in riparian situations. These beetles are the smallest click-beetles in North America.

Stibick's (1971) generic classification of the subfamily separated what most North American workers were calling *Negastrius* Thompson into six genera. The genus *Neohypdonus* Stibick, 1971 can be distinguished from other genera of Negastrinae by the shining or microreticulate pronotum, prosternal sutures curved outward, presence of elytral striae, short carinae of hind angles, subequal second and third antennal segments, and by the simple tarsal claws.

### KEY TO THE NORTH AMERICAN SPECIES OF *NEOHYPDONUS*

- |    |   |                                  |
|----|---|----------------------------------|
| 1. | Strial punctures absent or with strial punctures equivalent to interstitial punctures .....                               | 2                                |
| -  | Striae with several punctures deeper and more pronounced than interstitial punctures .....                                | 3                                |
| 2. | Elytra with humeral and subapical maculations; striae five and six extending beyond middle of elytra .....                | <i>aestivus</i> (Horn)           |
| -  | Elytra unicolorous, without maculations; striae five and six obliterated on posterior half .....                          | <i>restrictulus</i> (Mannerheim) |
| 3. | Prosternum with long depression on anterior half mesad of posternal suture (fig. 4) .....                                 | <i>recavus</i> n. sp.            |
| -  | Prosternum without long depression mesad of prosternal suture .....   | 4                                |
| 4. | Elytra black with humeral and often subapical pale maculations .....  | 5                                |
| -  | Elytra unicolorous dark brown or black, margins of elytra may be paler than disc but never with humeral maculations ..... | 6                                |

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5. Pronotum strongly convex, longer than wide, nearly glabrous, with small punctures and short pubescence (fig. 1); eastern U.S. .... *perplexus* (Horn)
- Pronotum slightly convex, wider than long (fig. 2); more densely pubescent; western U.S. and Canada ..... *gentilis* (LeConte) in part
6. Body compact, elytra at middle wider than pronotum; antennae not extending beyond hind angles of pronotum ..... 7
- Elytra at middle as wide as pronotum; antennae extending beyond hind angles of pronotum ..... 8
7. Black; pronotal carinae less than one third length of pronotum ..... *musculus* (Eschscholtz)
- Dark brown to black; pronotal carinae half as long as pronotum ..... *tumescens* (LeConte)
8. Lateral margin of pronotum sinuate, hind angles not attaining width of pronotum at center (fig. 3) ..... *nibleyi* n. sp.
- Lateral margin of pronotum sub-parallel posteriorly, hind angles as wide as or wider than pronotum at center (fig. 2) ..... *gentilis* (LeConte) in part

***Neohypdonus musculus***  
**(Eschscholtz), new combination**

*Cryptohypnus musculus* Eschscholtz 1882: 72; Mannerheim 1853: 239; Horn 1891: 22.  
*Hypnoideus musculus* Leng 1920: 171.  
*Negastrius musculus* Lane 1971: 19.

This is the smallest and most robust species of the genus in North America. The presence of the above listed generic characters distinctly places this species in the genus *Neohypdonus*.

***Neohypdonus nibleyi*,**  
**new species**

**Male.**- Length 3.3 mm (paratypes 2.8 - 3.3 mm); width 0.9 mm. Body depressed. Antennal segments one and two, edges of femora, tibiae, tarsi, pronotal angles, and margin of elytra pale brown. Head, antennal segments 3 - 11, pronotum, elytra, and underside dark brown to black. Body covered with fine yellow pubescence.

Antennae extending slightly beyond hind angles of pronotum. Margin of pronotum sinuate, widest point at middle (fig. 3). Pronotal carinae one third length of pronotum. Elytra widest at center, evenly arcuate to apex; striae distinctly impressed with several punctures deeper than interstitial punctures, interstriae finely reticulate; prosternal sutures single.

Genitalia typical for genus with lateral lobes parallel-sided except for gradual constriction at anterior third. Apices of lobes flattened laterally with two subapical setae, median lobe slender, gradually narrowing to apex.

**Female.**- Similar to male. Bursa copulatrix with "U"-shaped scleritization, arms more darkly sclerotized and denticulate.

**Type material.**- Holotype male: Utah; Utah Co., Provo River in Provo, July 12, 1989, S.A. Wells. Paratypes: same data as holotype. Brit. Col., 5 km SE Hope, Nicolium Cr., July 8, 1988, Ivie & Philips; Colo.; Grand Co., Willow Creek above Granby, July 10, 1989, S.A. Wells. Montana, Gallatin Co., Bridger Cr., June 17, 1989, D.A. Gustafson.

Holotype is deposited in the U.S. Nat'l. Mus. of Natural Hist. Paratypes are in the Canadian Nat'l. Coll., the Ohio State Univ., Montana State Univ., Brigham Young Univ., and the Wells Coll.

**Etymology.**- *Neohypdonus nibleyi* is named in honor of Dr. Hugh Nibley in gratitude for his scholarly defense of a clean biosphere.

*Neohypdonus nibleyi* is readily separated from other species of *Neohypdonus* by the absence of elytral maculations, the sinuate margin of the pronotum (fig. 3), and by the antennae extending slightly beyond the pronotal angles. The biology of *N. nibleyi* is different from that of *N. gentilis* in that it is only known from the banks of third or fourth order streams that have a rocky base with several riffles whereas *N. gentilis* is normally collected by sweeping tall grass near slow first or second order streams with a muddy bottom.

Specimens from Provo were collected within two or three hours after a heavy rain storm and were within two to four feet of the river's edge on stones. Several hours after the storm only one additional specimen was found after considerable searching. The specimens from Colorado were collected under stones in moist sand near Willow Creek and were collected with *Fleutiauxellus manki* and *Migiwa striatulus* both of which are superficially similar.

### *Neohypdonus recavus*, new species

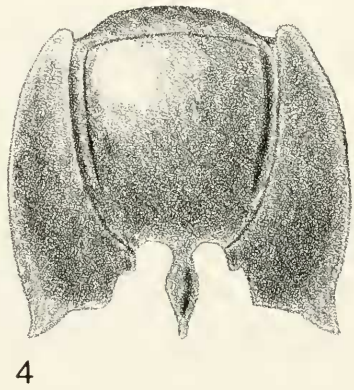
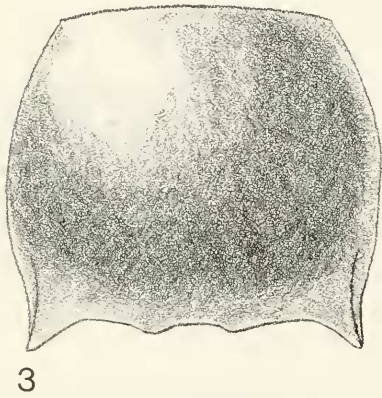
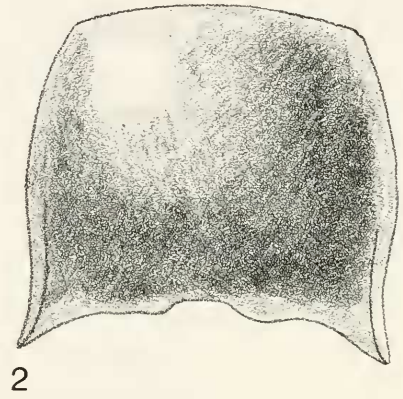
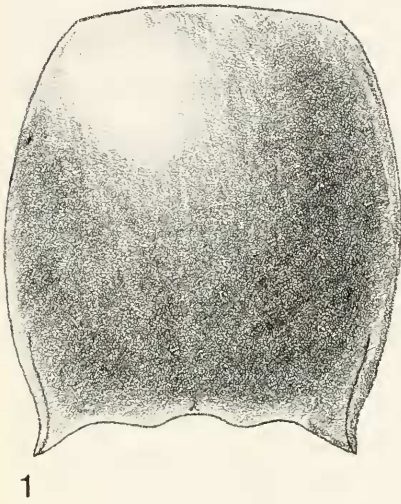
**Female.**- Length 2.8 mm (paratypes 2.8 - 3.1 mm); width 0.8 mm. Body convex, sub-cylindrical. Coxae, tibiae, and tarsi pale to dark brown; remainder of body dark brown to black.

Antennae with segments 3 - 11 beadlike, extending nearly to hind angles of pronotum. Margin of pronotum sinuate, widest point at middle (fig. 4). Pronotal carinae one third to one half length of pronotum. Elytra widest at middle, evenly arcuate to apex; striae distinctly impressed, several punctures deeper and more pronounced than interstitial punctures; interstriae finely reticulate. Prosternal sutures single, area immediately mesad of sutures strongly longitudinally depressed.

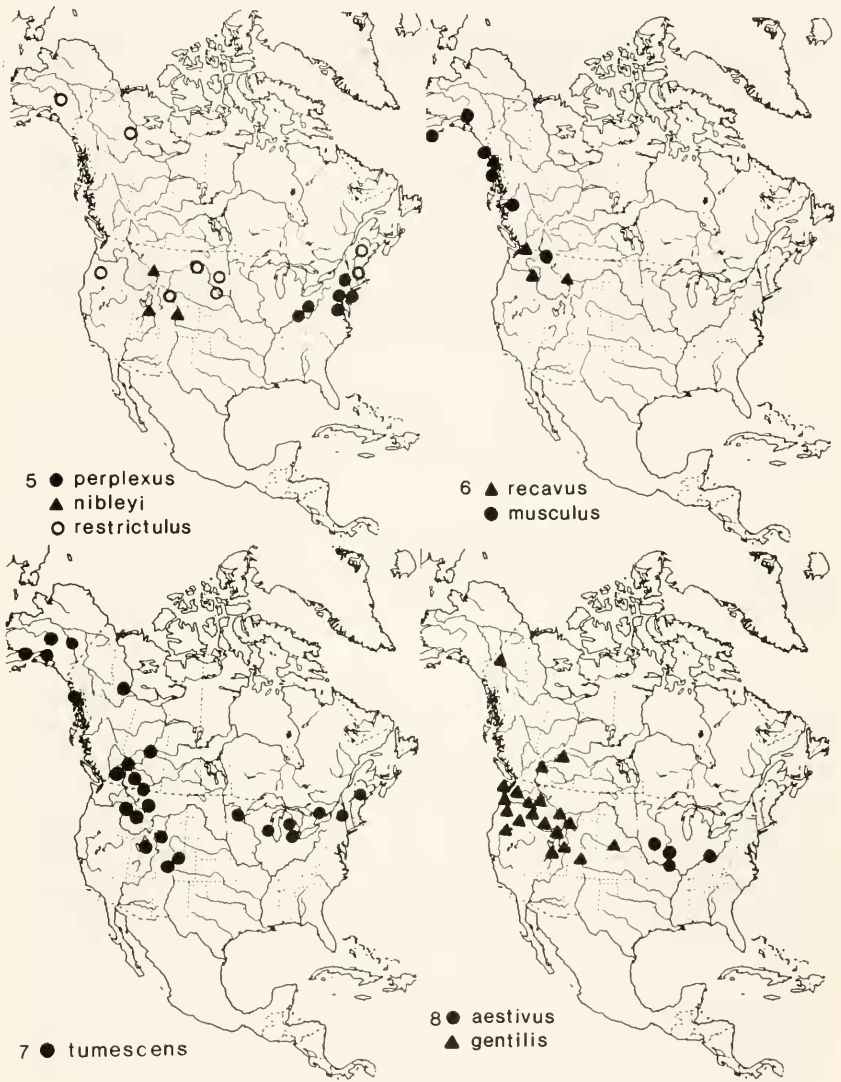
Bursa copulatrix with "U"-shaped sclerotization, anterior margin of sclerite denticulate, margin of arms curved at right angles.

**Male.**- Similar to female.

**Type material.**- Holotype female: Alaska; Glacier Bay, Muir Inlet, VI-13-65, D.M. Delong coll. Paratypes: Canada; British Columbia, tributary of Squamish River 24 miles north of Brackendale, July 15, 1988, Baumann, Wells, and Whiting. United States; Montana, Broadwater County, Missouri River, Deepdale, June 22-July 20, 1988, C.E. Seibert; Gallatin County, Jefferson River, April 5-27, 1988. Oregon, Wallawa Mountains, Ice Lake, July 25, 1965; Whitman National Forest, Crane Flat, June 12, 1939. Washington; Okanogan County, West Fork of Granite Creek, July 12, 1988, Baumann, Wells, and Whiting; Lost River above Mazama, July 13, 1988, Baumann, Wells, and Whiting.



Figures 1 - 4. Pronota of *Neohypdonus* species. 1, *N. perplexus*. 2, *N. gentilis*. 3, *N. nibleyi*. 4, *N. recavus*.



Figures 5 - 8. Known distribution of *Neohydonus* species in North America.

The holotype is deposited at The Ohio State University. Paratypes are at the U.S. National Museum of Natural History, the Field Museum of Natural History, Chicago, Montana State University and the Wells collection.

**Etymology.**- The term *recavus* is a Latin adjective meaning arched inward and refers to the condition of the prosternum.

*N. recavus* is easily separated from all other North American species of *Neohypdonus* by the strong concavity on the prosternum. The antennae are beadlike as in *N. tumescens* and *N. musculus* but extend very near to the hind angles of the pronotum.

Specimens have been collected under stones in moist sandy soil along the banks of streams. Adults have been collected with *Fleutiauxellus manki* to which it is superficially similar.

#### ACKNOWLEDGMENTS

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